

BF - Assignment

1. (D)
2. (A)
3. ~~B~~(D)
4. 10,00,000

5. Cashflow from the project :-

(i) At Date - 1

$$\begin{array}{r} +2500 \\ (1500) \\ \hline 1000 \end{array}$$

Now include the tax rate

$$\begin{aligned} &1000 - (1000 \times 0.4) \\ &= 1000 - 400 = \underline{\underline{600}} \end{aligned}$$

(ii) NPV given as

$$\begin{aligned} &2500(600 - 20\%)^{+1} - 1500(600 - 20)^{+1} \\ &= \underline{\underline{800}} \end{aligned}$$

(iii) $NPV = 2500(600 - 20)^1 - 1500(600 - 20)^2$

$$= 1040$$

This shows NPV of the project increases

6. The efficiency ratios, they
- give the insight of the effectiveness of the company's management
 - add the working capital components

$$\text{Inventory T/O period} = \frac{\text{inventory}}{\text{COS}} \times 365$$

$$\text{Trade credit T/O per} = \frac{\text{trade recei}}{\text{credit sal}} \times 365$$

- They are measured in one year time period.

7.

- Ignores the primary aspect of the business
- includes only the accounting or inventory aspect of the business.
- Price levels are dependend on historical cost, ~~to~~
- All the accounting ratios are based on the accounting information available.
- If there is variation in the accounting practice, the straight line depreciation written down method would affect the number and hence the ratio.

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8.8) Now, $\beta < 1$, risk rate is less than market risk premium.

- And, $\beta > 1$, risk rate more than market premium.

- If $\beta = 1$, the business is good.

(9.ii) ~~$\beta = 1$~~
corporate tax = 30%.
equity to debt = 1:2

$$\text{Geared Beta} = \text{Ungeared beta} \left[1 + \frac{1}{2} (1 - 0.3) \right]$$

$$\text{Ungeared} = 0.8148$$

$$\text{Geared Beta} = \text{Ungeared Beta} [1 + 0.7]$$

$$= \underline{\underline{1.3851}}$$

9. (D)

10)

(i) There might be several conflicts in the company.

- managers could use insider information to maximize the wealth
- leak of information.

(ii)

Dividend p.s. = 10

Risk free = 6%

MRP = 5%

Growth = 8%

Cost of equity = $\frac{10}{70} + 8\% = 22.8\%$

$$R = R_F + MRP \times \beta$$

$$22.8 = 6 + 5\% \times \beta$$

$$\beta = 2.257$$

$$\begin{aligned} \text{New } \beta &= \text{old } \beta + 80\% \text{ of old } \beta \\ &= 3.257 + (0.8 \times 3.257) \\ &= 5.871 \end{aligned}$$

$$R_e = 6 + (5 + 5.7) = 35.4\%$$

$$\frac{10}{MPS} \times 100 = 27.181$$

$$MPS = \frac{1000}{27.81} = \cancel{361} = \underline{\underline{36.68}}$$

11) (i) Beta : the measure of systematic risk

$$\beta = \left[\frac{\text{cov}(i, \text{mkt})}{\text{Var}(m)} \right] = \frac{\sigma_{im}}{\sigma_m^2}$$

$$\beta = \frac{\sigma_{im}}{\sigma_m^2}$$

$$(ii) \beta = \frac{\text{cov}(i, \text{mkt})}{\text{Var}(m)} = \frac{\sigma_{im}}{\sigma_m^2}$$

(iii) I would lean towards investing with the beta

(iv) Cash

12)

$$R_F = 7\%$$

$$MRP = 5\%$$

$$\beta = 1.5$$

$$\text{Tax} = 25\%$$

$$\text{Equity/Debt} = 1/7$$

$$\text{Gross debt} = 9.1$$

$$\text{in } WACC = [rd \times wd] + [re \times we]$$

$$\begin{aligned} re &= R_f + MRP \times \beta \\ &= 7 + 5 \times 5 \\ &= 14.5\% \end{aligned}$$

$$\begin{aligned} rd &= 9(7 - 0.25) \\ &= 6.75 \end{aligned}$$

$$\begin{aligned} WACC &= \left(\frac{14.5 \times 1}{2} \right) + \left(\frac{6.75 \times 1}{2} \right) \\ &= 10.625\% \end{aligned}$$

$$\text{ii) Levered Beta} = \text{Unlevered } \beta \left[1 + \frac{D}{E}(7\%) \right]$$

$$1.5 = \text{Levered Beta} \left[1 + \frac{D}{E}(7 - 0.25) \right]$$

$$\text{Unlevered Beta} = \underline{\underline{0.8571}}$$

$$\begin{aligned} Re &= R_f + MRP \times \beta \\ &= 7\% + 5\% \times 0.8571 \end{aligned}$$

$$Re = \underline{\underline{11.285\%}}$$

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(ii) $1R + 1S\%$

$$40000 \times a_{\overline{4}|i}^{1.5} - 20000 = 0$$

$$20000 = 40000 \left[\frac{1 - (1.15)^{-4}}{0.15} \right]$$

$$20000 = 114199.13$$

Cost of project = 114199.134

$$\begin{aligned} \text{COC} &= 114199.14 \times 1.064 \\ &= 121507.89 \end{aligned}$$

$$3.03769 = \frac{1 - (1+i)^{-4}}{(i)}$$

$$3.03769 + (1+i)^{-4} - 1 = 0$$

Now using calc,
 $i = 11.99\% \approx 12\%$

$$\begin{aligned} \text{Payback} &= \frac{114199.14}{40000} = 2.85 \\ &= \boxed{2.85 \text{ yrs}} \end{aligned}$$

$$\begin{aligned} \text{NPV} &= 121507.89 - 114199.14 \\ &= \underline{\underline{7307.68}} \end{aligned}$$

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14. Current ratio $\rightarrow \frac{\text{current Asset}}{\text{current liability}}$

This ratio basically measures the company's liquidity.

⊗ debtor t/o ratio = $\frac{\text{Net credit sales} \times 36}{\text{Avg. receivables}}$

This ratio measures if the company ~~will be able to~~ is efficient enough to collect the receivable from its creditors.

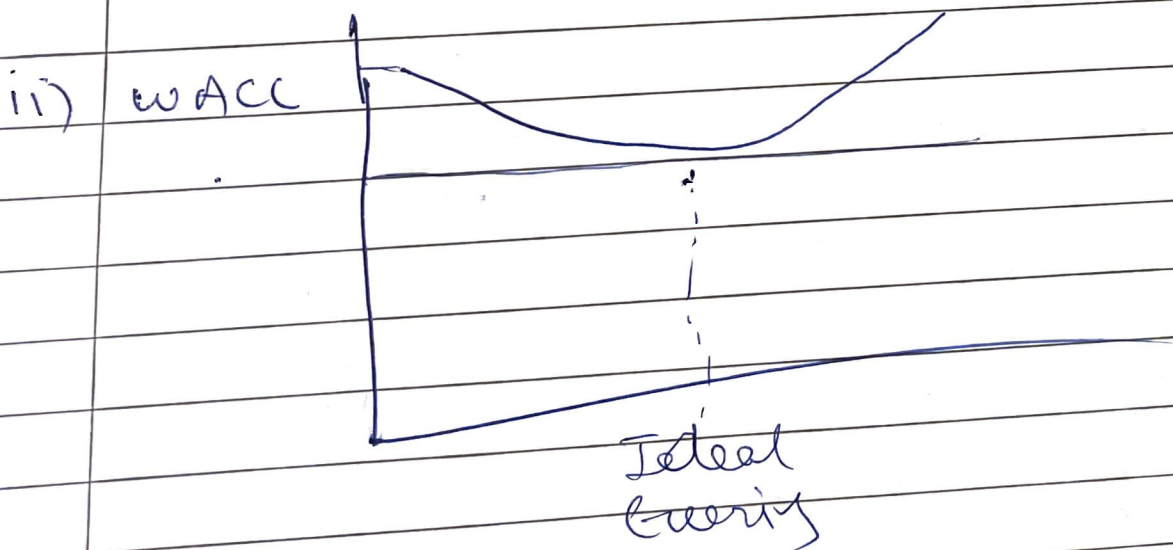
(ii) It's used to measure the liquidity on the daily basis. It's the quick ratio, it is measured by dividing the quick assets with the current liabilities.

15. Shareholders could buy the more if they see that equity = debt.

- good dividend yield
- diversify the risk of the portfolio
- business potential

$$\begin{aligned} \text{CoC} &= (8 \times 0.5) + (4 \times 0.5) \\ &= \underline{\underline{6\%}} \end{aligned}$$

Ideal CoC would be 6% or higher.



- Now, Cost of debt is cheaper than cost of equity

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$$WACC = \left[\left(\text{Net cost of debt} \times \frac{\text{MV of Debt}}{\text{MV of Debt} + \text{MV of Eq}} \right) + \left(\text{Net cost of equity} \times \frac{\text{MV of equity}}{\text{MV of debt} + \text{Value of } \cancel{A}} \right) \right]$$

- Cost of equity increases at faster rate than cost of equity

(ii)

> Assumptions:

- No tax
- Debt + equity
- perfect information available
- No asymmetric information
- loan is available everywhere
- No agency cost
- constant interest rate